

High-dispersion spectroscopy of the Ofpe/WN9 stars R84 and S61 of the LMC

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The Ofpe/WN9 stars R84 and S61 of the LMC have been studied with high-dispersion spectroscopy in the optical and satellite-UV range. The high resolution and high S/N spectra in the optical range are particularly distinguished by strong emission lines of H, HeI and [NII]. The comparison of R84 with S61 shows that the peculiar emission line spectrum is not caused by the previously found late type companion of R84. We find that the UV spectra of both stars closely resemble those of late O-supergiants but all absorption lines are violet-shifted by about  $250 \text{ km s}^{-1}$  (R84) and about  $200 \text{ km s}^{-1}$  (S61). The absorption lines are stronger than in normal O-type stars. The UV-resonance lines indicate low terminal wind velocities of  $\approx 900 \text{ km s}^{-1}$  only. Unlike to normal O-type stars the AlIII-resonance lines also show pronounced P Cygni profiles with an even lower edge velocity ( $v_{\text{edge}} \approx 400 \text{ km s}^{-1}$ ). The mass loss rates ( $> 6 \cdot 10^{-6} \text{ Mo yr}^{-1}$ ) are comparable to rates found in normal luminous hot stars. However, the wind appears to be much more gradually accelerated similar to the wind of the galactic supergiant P Cygni. It is suggested that the Ofpe/WN9 transition type stars are the hotter counterparts of the early B-type P Cygni stars.

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